from a database;"

Pages 3-4 of the Office Action state, "Excel 97 does not disclose explicitly extracting data automatically at random from a database. Fahey discloses extracting data automatically at random from a database (col 10, lines 47-60)."

The Applicant respectfully disagrees that Fahey discloses extracting data automatically at random from a database. The cited portion of Fahey (column 10, lines 47-60) reads:

> **Referring to FIGS. 5-10 a more detailed understanding of the control process and data flow of the present invention will be appreciated. Specifically, referring to FIG. 5, the overall control process of the present invention will be appreciated. In step 200 the process begins. In step 202, predetermined ABC relevant data is automatically extracted from the operational databases 24, 48, 26 and 32. The extraction of the relevant data is automated and executed by software programming in a manner known in the art. Some of the data extracted from the operational data systems for storage in the ABC data warehouse 42 includes the operating costs and driver transaction data by product family for each plant and division activity center. As activity centers are added to a division or plant this data is updated. As products are added or discontinued these data items are updated."**

Note that the cited portion above discloses that **relevant** data is extracted, not **random** data. Further, Figures 5-10, which are referred to therein do not disclose random data. Therefore, "extracting data automatically at random from a database" is clearly not discloses in Fahey.

With regard to "extracting data automatically at random," please note that in the case that there is vast data to be analyzed, it can be difficult to cover all of the data in a database as objects to be analyzed.   In such a case, in many data analysis systems such as Fahey, analysts need to narrow the scope of the data to be analyzed, submitting conditional formula(s). However, only the statistical characteristics of populations are important for many data analyses. Therefore, there are some cases in which reduction in data points to be analyzed is allowable, provided that the statistical characteristics of populations are maintained.

In view of the above, one feature of the present invention is "extracting data automatically at random." This can typically reduce data points to be analyzed without changing the statistical characteristics of the population and to thereby facilitate an easy trend analysis of the population without typically depending on the number of data points. As a result, an analyst can concentrate his/her attention on the analysis itself, avoiding a burden of

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narrowing the scope of the data to be analyzed.

Thus, Fahey neither discloses nor suggests "extracting data automatically at random." In Fahey, data to be analyzed is merely extracted from the database under the condition(s) specified by the analyst.

Thus, claim 1 does not suggest the above-mentioned feature.

Claim 1 also recites, "cross tabulation display means for displaying according to summing up conditions to set a range to be displayed a cross tabulation in which the data extracted at random from the database by the random extraction means is cross summed up;"

Since data is not extracted at random in either applied reference, then the operation in the preceding paragraph also cannot be realized by the applied references.

Claim 1 also recites, "graph display means for displaying the data extracted at random from the database as a graph within the range of the cell specified by said cell specifying means."

Since data is not extracted at random in either applied reference, then the operation in the preceding paragraph also cannot be realized by the applied references.

Further, the combination of Excel and Fahey does not suggest extracting data automatically at random from a database. Nothing in either reference, taken individually, or in combination, relates to extracting data automatically at random from a database. Thus, the two references in combination do not suggest this feature or the features of claim 1.

Therefore, in view of the above, it is submitted that claim 1 is not unpatentable over Excel and Fahey, and withdrawal of the rejections is respectfully requested.

Independent claims 12 and 23, view of the above remarks, are also not unpatentable over Excel and Fahey.

Dependent claims 2-8 and 10-11, 13-22, and 24-26 are dependent upon claims 1, 12, and 23, respectively, which for the above reasons should be allowed over the applied art. Dependent claims 2-8, 10-11, 13-22, and 24-26 also recite additional features not taught or suggested by the prior art, and it is submitted that these claims are independently patentable as well.

Therefore, in view of the above, withdrawal of the rejections is respectfully requested.

III. CONCLUSION

There being no further outstanding objections or rejections, it is submitted that the application is in condition for allowance. An early action to that effect is courteously solicited.

Finally, if there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 19-3935.

Respectfully submitted,

STAAS & HALSEY LLP

Date: 7-9-02

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE CLAIMS:

None of the claims are amended. Nevertheless, for the convenience of the Examiner, all of the pending claims are reproduced below:

1.   (AS TWICE AMENDED) An interactive data analysis support apparatus for supporting the analysis of data, said apparatus comprising:

random extraction means for extracting data automatically at random from a database;

cross tabulation display means for displaying according to summing up conditions to set a range to be displayed a cross tabulation in which the data extracted at random from the database by the random extraction means is cross summed up;

cell specifying means for specifying at least one cell among a number of cells constituting said cross tabulation; and

graph display means for displaying the data extracted at random from the database as a graph within the range of the cell specified by said cell specifying means.

2.   (AS TWICE AMENDED) An interactive data analysis support apparatus according to claim 1, wherein said graph display means comprises display limiting means for limiting the range of the data to be displayed .

3.   (AS TWICE AMENDED) An interactive data analysis support apparatus according to claim 2, wherein said graph display means comprises storage means for storing the range of the data to be displayed which is limited by said display limiting means as a summing up condition used by said cross tabulation display means, and said cross tabulation display means is capable of displaying cross tabulation in which the data extracted at random from the database is cross-summed up according to the summing up condition stored by said storage means.

4.   (AS ONCE AMENDED) An interactive data analysis support apparatus according to claim 1, wherein said graph display means comprises rearranging means for automatically rearranging in a graph the data to be displayed according to predetermined

conditions.

5.   (AS TWICE AMENDED) An interactive data analysis support apparatus according to claim 4, wherein said graph display means comprises storage means for storing data to be displayed which is rearranged by said rearranging means as a summing up condition used by said cross tabulation display means, and said cross tabulation display means is capable of displaying cross tabulation in which the data extracted at random from the database is cross-summed up according to the summing up condition stored by said storage means.

6.   (AS TWICE AMENDED) An interactive data analysis support apparatus according to claim 1, wherein said graph display means comprises:

automatic analyzing means for finding a new display item by extracting a characteristic of the data extracted at random from said database, and display item-adding means for adding the new display item found by said automatic analyzing means to the graph.

7.   (AS TWICE AMENDED) An interactive data analysis support apparatus according to claim 6, wherein

said graph display means comprises storage means for storing the new display item added by said display item-adding means as a summing up condition used by said cross tabulation display means, and said cross tabulation display means is capable of displaying cross tabulation in which the data extracted at random from a database is cross-summed up according to the summing up condition stored by said storage means.

8.   (AS TWICE AMENDED) An interactive data analysis support apparatus according to claim 1, wherein the data extracted at random from said database is an aggregate of records composed of a number of data items.

10.   (AS UNAMENDED) An interactive data analysis support apparatus according to claim 8, wherein said graph display means has a structure such that a graph is displayed designating said data item as an axis.

11.   (AS UNAMENDED) An interactive data analysis support apparatus according to claim 10, wherein said graph display means comprises the same number of axes as the data

items constituting said records, and plots a point corresponding to a value of each data item with regard to each of said records, to thereby display a graph in which points plotted on adjacent axes are connected by a segment.

12. (AS TWICE AMENDED) A medium on which is recorded an interactive data analysis support program for supporting the analysis of data wherein there is recorded at least a program for executing:

a random extraction operation extracting data automatically at random from a database;

a cross tabulation display operation displaying according to summing up conditions to set a range to be displayed a cross tabulation in which the data extracted at random from the database by the random extraction operation is cross-summed up;

a cell specifying operation specifying at least one cell among a number of cells constituting said cross tabulation; and

a graph display operation displaying the data extracted at random from the database as a graph within the range of the cell specified by said cell specifying operation.

13. (AS TWICE AMENDED) A medium on which is recorded an interactive data analysis support program according to claim 12, wherein said graph display operation comprises a display limiting operation for limiting the range of the data to be displayed .

14. (AS TWICE AMENDED) A medium on which is recorded an interactive data analysis support program according to claim 13, wherein said graph display operation comprises a storage operation for storing the range of the data to be displayed which is limited by said display limiting operation as a summing up condition used by said cross tabulation display operation; and

said cross tabulation display operation is capable of displaying cross tabulation in which the data extracted at random from a database is cross-summed up according to the summing up condition stored by said storage operation.

15. (AS TWICE AMENDED) A medium on which is recorded an interactive data analysis support program according to claim 12, wherein said graph display operation comprises a rearranging operation for automatically rearranging in a graph the data to be displayed according to predetermined conditions.

16.   (AS TWICE AMENDED) A medium on which is recorded an interactive data analysis support program according to claim 15, wherein said graph display operation comprises a storage operation storing data to be displayed which is rearranged by said rearranging operation as a summing up condition used by said cross tabulation display operation, and said cross tabulation display operation is capable of displaying cross tabulation in which the data extracted at random from a database is cross-summed up according to the summing up condition stored by said storage operation.

17.   (AS TWICE AMENDED) A medium on which is recorded an interactive data analysis support program according to claim 12, wherein said graph display operation comprises:

an automatic analyzing operation for finding a new display item by extracting a characteristic of the data extracted at random from said database, and a display item-adding function for adding the new display item found by said automatic analyzing operation to the graph.

18.   (AS TWICE AMENDED) A medium on which is recorded an interactive data analysis support program according to claim 17, wherein said graph display operation comprises a storage operation for storing the new display item added by said display item-adding operation as a summing up condition used by said cross tabulation display operation, and said cross tabulation display operation is capable of displaying cross tabulation in which the data extracted at random from a database is cross-summed up according to the summing up condition stored by said storage operation.

19.   (AS TWICE AMENDED) A medium on which is recorded an interactive data analysis support program according to claim 12, wherein the data extracted at random from said database is an aggregate of records composed of a number of data items.

21.   (AS ONCE AMENDED) A medium on which is recorded an interactive data analysis support program according to claim 19, wherein said graph display operation has a structure such that a graph is displayed designating said data item as an axis.

22. (AS ONCE AMENDED) A medium on which is recorded an interactive data analysis support program according to claim 21, wherein said graph display operation comprises the same number of axes as the data items constituting said records, and plots a point corresponding to a value of each data item with regard to each of said records, to thereby display a graph in which points plotted on adjacent axes are connected by a segment.

23. (AS ONCE AMENDED) An interactive data analysis support apparatus for supporting the analysis of data, said apparatus comprising:

a random extraction device automatically extracting data at random from a database;

a cross tabulation display device displaying according to summing up conditions to set a range to be displayed a cross tabulation in which the data automatically extracted at random from the database is cross summed up;

a cell specifying device specifying at least one cell among a number of cells constituting said cross tabulation; and

a graph display device displaying the data extracted at random from the database as a graph within the range of the cell specified by said cell specifying means.

24. (AS ONCE AMENDED) An interactive data analysis support apparatus according to claim 23, wherein said graph display device comprises display limiting device for limiting the range of the data to be displayed by an operation in a graph.

25. (AS UNAMENDED) An interactive data analysis support apparatus according to claim 23, wherein said graph display device comprises a rearranging device for automatically rearranging in a graph the data to be displayed according to predetermined conditions.

26. (AS ONCE AMENDED) An interactive data analysis support apparatus according to claim 23, wherein said graph display means comprises:

an automatic analyzing device finding a new display item by extracting a characteristic of said the data extracted at random from said database, and a display item-adding device adding the new display item found by said automatic analyzing device to the graph.